

REMARKS

Formal Matters

Applicants note that the Examiner has acknowledged the references submitted with the Information Disclosure Statement filed on December 16, 2003.

Applicants note that the Examiner has acknowledged the claim to foreign priority and has acknowledged receipt of a certified copy of the priority documents.

Claim Objections

The Examiner has objected to claims 1-12 due to some informalities.

Applicants have amended the claims and the Examiner is requested to withdraw the objection.

Claims

Claims 1-13 are all the claims pending in the application. Claims 1, 5, and 9 are amended to improve the readability.

Claim Rejections - 35 U.S.C. § 101

The Examiner has rejected claims 5-8 as being directed to non-statutory subject matter.

Claims 5-8 have been amended and it is respectfully submitted that the claims comply with 35 U.S.C. § 101 and the Examiner is requested to withdraw the rejection.

Allowable Subject Matter

Applicants note that the Examiner has found allowable subject matter in claims 2, 4, 10, and 12, and indicated that the claims would be allowable if rewritten in independent form.

However, Applicants request holding in abeyance such rewriting of the claims until the Examiner has had an opportunity to reconsider and withdraw the rejection of the other claims, as discussed below.

Prior Art Rejections

Claims 1, 5, and 9 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Gonzalez, "Digital Image Processing, 2/E" (ISBN-10: 0201180758. Published: 11/09/2001), hereinafter "Gonzalez".

Applicants respectfully traverse the rejections.

Independent Claim 1

Claim 1 recites a feature of an operating means that multiplies kernel coefficients of one or more columns on the left or on the right of a center column by column elements of image data corresponding to said one or more columns and cumulatively adds the multiplied result. Claim 1 further recites memorizing means that memorizes operation results generated at said operating means as intermediate data. Claim 1 also recites a pixel value calculating means that calculates pixel values of said image data by cumulatively adding said intermediate data memorized in said memorizing means.

The Examiner cites formula 3.5-1 on page 117 in Gonzalez as disclosing the claimed feature of multiplying kernel coefficients of one or more columns on the left or on the right of a center column by column elements of image data corresponding to said one or more columns and cumulatively adding the multiplied results. See Office Action page 4. The Examiner states that the variable 't' in the formula 3.5-1 can be kept a constant. See Office Action page 4. However, in formula 3.5-1, 't' varies from '-b' to 'b'. See Gonzalez page 117. Gonzales does not teach or suggest that 't' is a constant.

The Office action contends that the double summation sign corresponds to the claimed cumulative addition of multiplied results. See Office Action page 4 and 3.5-1 on Page 117 in Gonzalez. Hence, the Office Action suggests that $g(x,y)$ in 3.5-1 corresponds to the intermediate data. However, claim 1 also recites a pixel value calculating means that calculates pixel values

of said image data by cumulatively adding said intermediate data memorized in said memorizing means. Claim 1 recites “cumulatively adding said intermediate data”, which would be understood to add at least two of the intermediate data. Although, Gonzales discloses “to generate a complete filtered image this equation must be applied for $x=0,1,2,\dots$ ”, see Gonzalez last 3 lines page 117, Gonzalez does not teach or even suggest that the more than one $g(x,y)$, which the Examiner contends as corresponding to the claimed intermediate data, are cumulatively added. Hence, Gonzalez does not teach or suggest cumulatively adding intermediate data.

The Examiner states that the “ $g(x,y)$ matrix is initially all zeroes”, and asserts that such a matrix adds to itself pixel values of a filtered image. See Office Action page 4. Applicants respectfully submit that the reference does not disclose that the $g(x,y)$ matrix is initially all zeroes. Further, Applicants respectfully submit that claim 1 recites cumulatively adding said intermediate data. In contrast, even if Gonzalez’s $g(x,y)$ is deemed to be intermediate data, Gonzalez does not disclose that more than one $g(x,y)$ are added together.

Therefore, it is respectfully submitted that Gonzalez does not teach or suggest all the features of claim 1 and hence does not anticipate claim 1. The Examiner is respectfully requested to withdraw the rejection.

Independent Claims 5 and 9

Claims 5 and 9 are patentable at least for the reasons stated for claim 1. The Examiner is respectfully requested to withdraw their rejections.

Claims 3, 7, and 11 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Gonzalez in view of Hsu (USPN # 6973469), hereinafter “Hsu”.

Hsu does not make up for the deficiencies of Gonzalez. Therefore, it is respectfully submitted that claims 3, 7, and 11 are patentable. Claims 3, 7, and 11 are at least patentable by virtue of their dependency.

Claims 6 and 8

Applicants note that the Examiner has not clarified his position on the patentability of claims 6 and 8. The Examiner is respectfully requested to indicate his position on claims 6 and 8 in the next Office Action.

New Claims

Claims 13-16 are added. Support for claim 13 can be found at least on page 2 of the specification. Support for claims 14-16 can be found at least on pages 19 and 20 of the specification and in Figure. 20.

Conclusion

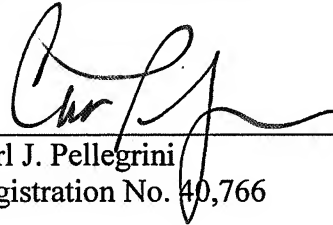
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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